

FACT SHEET

The Nevada Division of Environmental Protection (NDEP), Bureau of Water Pollution Control is proposing various amendments to the state's Underground Injection Control (UIC) Regulations, NAC 445A.810 to NAC 445A.925, inclusive. This Fact Sheet summarizes the major proposed amendments and provides additional background information on the proposed regulation changes.

Reason

The UIC program is designed to protect underground sources of drinking water from degradation by regulating the fluids injected through a well. Unauthorized or improper injection may negatively impact groundwater used as drinking water. The U.S. Environmental Protection Agency, under authority of the Safe Drinking Water Act, has delegated Nevada authority to implement the state's UIC program.

The proposed amendments to the UIC regulations are necessary to ensure that Nevada retains primacy for the UIC program by meeting the federal UIC regulations, which were recently amended. Additionally, amendments are also necessary to reflect current program requirements and needs.

Background Information on Injection Wells

The new proposed definition of a well includes leachfields, and follows the new federal language. Injection wells are simply wells used for the subsurface emplacement of fluids. The proposed state regulation amendments and the new federal regulations focus on Class V wells. Under both the state and federal regulations, injection wells are divided into five classes. Attachment A describes the five classes of injection wells. Class V wells encompass all "other" well types not included in the first four classes. Class V wells include the so-called "low technology" wells, such as floor drains in various buildings, or wash pads with drains, emptying to leachfields, large capacity septic systems, and cesspools. The proposed Nevada UIC regulation amendments define a "well" as "a bored, drilled or driven shaft whose depth is greater than the largest surface dimension; or, a hole which is dug, with a depth greater than the largest surface dimension; or, an improved sinkhole; or, a subsurface fluid distribution system. In turn, a "Subsurface fluid distribution system" is defined as an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground.

Amendment Required Due to Recent Federal UIC Regulation Changes

Recently, the U.S. Environmental Agency promulgated a final rule revising its Class V UIC regulations (Federal Register/ Vol. 64, No. 234 / Tuesday, December 7, 1999 / Rules and Regulations). The rule and preamble may be viewed and downloaded at the following Internet address:

<http://www.epa.gov/safewater/uic/c5fedreg.pdf>. As stated above, Nevada's UIC regulations are being amended to reflect the new federal requirements, so as to be at least as stringent as their federal counterpart regulations. **The State has made every effort to consider the unique needs and conditions in Nevada, and has written the proposed regulation amendments accordingly, in order to provide the greatest flexibility for permittees and permit applicants, while still meeting the federal regulation requirements.** Previously, federal requirements authorized Class V wells by "rule" rather than by permit, as long as well owners submitted basic inventory information and the injectate did not have a potential to endanger groundwater. In contrast, Nevada's existing regulations require a permit for all injection wells. The new federal rules add prescriptive requirements for two types of Class V wells, including permitting options and other requirements. **Effective April 05, 2000, construction of new motor vehicle waste disposal wells are banned, nationwide, as are large capacity cesspools.** In Nevada, all cesspools are currently banned.

Additionally, the new EPA regulations emphasize protection of public groundwater supply systems and other underground drinking water resources. With this in mind, EPA is requiring owners of existing Motor Vehicle Waste Disposal Wells within Groundwater Protection Areas, to either plug and abandon their wells or apply for a permit, which would require meeting drinking water standards at point of injection, along with implementation of a best management plan and regular monitoring and sampling of injectate fluids (requirements in proposed section, NAC 445A.8691). The same requirements would apply in other areas determined to be critical for the protection of underground sources of drinking water. The EPA regulations require states with primacy to implement an Other Sensitive Groundwater Area (OSGWA) plan, which would identify such areas within the state.

In Nevada, the delineation of Groundwater Protection Areas is tied to completion of local sourcewater assessments by the State of Nevada Health Division, Bureau of Health Protection Services. The responsibility to formulate and implement a plan for identification of OSGWAs lies with the State's UIC Program. Nevada's proposal to identify OSGWA's and its implementation strategy is summarized in the next section. Requirements and deadlines for owners of existing Motor Vehicle Waste Disposal Wells are summarized in Table 1.

Table 1

<i>Requirement</i>	<i>Deadline</i>
<i>(a) If your well is in a groundwater protection area, you must close the well or obtain a permit with conditions described in NAC 445A.8691.</i>	<i>Within 1 year of the completion of your local source water assessment; the director may extend the closure deadline, but not the permit application deadline, for up to one year if the most efficient compliance option is connection to a sanitary sewer or installation of new treatment technology.</i>
<i>(b) If your well is in an other sensitive groundwater area, you must close the well or obtain a permit with conditions described in NAC 445A.8691.</i>	<i>By January 1, 2007; the director may extend the closure deadline but not the permit application deadline, for up to one year if the most efficient compliance option is connection to a sanitary sewer or installation of new treatment technology.</i>
<i>(c) If the state of Nevada has not completed all its local assessments by a January 1, 2004 deadline, or by the extended date if an extension application has been submitted to the EPA as described in 40 C.F.R. § 144.87(b), more stringent requirements for motor vehicle waste disposal wells will apply statewide, and you must close the well or obtain a permit with conditions described in NAC 445A.8691. The state expects to meet all deadlines.</i>	<i>January 1, 2005 unless Nevada obtains an extension as described in 40 C.F.R. § 144.87(b) in which case your deadline is January 1, 2006; the director may extend the closure deadline but not the permit application deadline, for up to one year if the most efficient compliance option is connection to a sanitary sewer or installation of new treatment technology.</i>
<i>(d) If the state of Nevada does not have in place its EPA approved plan to identify other sensitive groundwater areas by a January 1, 2004 deadline, or by the extended date if an extension application has been submitted to the EPA as described in 40 C.F.R. § 144.87(c), more stringent requirements for motor vehicle waste disposal wells will apply statewide, and you must close the well or obtain a permit with conditions described in NAC 445A.8691. The state expects to meet all deadlines.</i>	<i>January 1, 2007 unless the director obtains an extension as described in 40 C.F.R. § 144.87(c) in which case your deadline is January 2008. The deadlines do not apply if you are subject to a different compliance date pursuant to paragraphs (a) or (c) of this section.</i>

Other Sensitive Groundwater Area Plan

Other Sensitive Groundwater Areas (OSGWAs) defined in Nevada's proposed amended UIC regulations are: "... those areas identified by the Nevada Division of Environmental Protection, Underground Injection Control Program, in addition to groundwater protection areas, delineated by the Source Water Assessment Program, that are determined to be critical to protecting underground sources of drinking water from contamination. The approach by the state of Nevada to identify other sensitive groundwater areas is based on using a list of criteria, at the injection well-site, and only affects owners of motor vehicle waste disposal wells. For this injection well type, more stringent permitting requirements (see 445A.8691), or possible

well closure, will apply if the injection well location is identified as an other sensitive groundwater area. Criteria considered in determining other sensitive groundwater area status include factors such as depth to groundwater, geology, proximity to drinking water wells and surface water bodies, groundwater quality, and current and projected population and land use.”

Based on communication with EPA to date, the state understands that the original intent of EPA regulatory language was for states to physically identify and classify areas of their respective states, on a map, as sensitive, using a combination of hydrogeologic and geographic criteria. Nevada has proposed to EPA an “equivalent” approach, which consists of evaluating each permit application received for a MVWDW on an individual basis, to determine its OSGWA status. The approach is site-specific as opposed to a delineated map with definitive lines drawn. An evaluation will be required at each permit-candidate injection well site, utilizing a “toolbox” of hydrogeologic, geographic, and possible statistical information for determination of OSGWA status, for purposes of establishing permit requirements. The criteria for OSGWA determination will be partially provided by the applicant, in concert with in-house information. A site-specific approach to OSGWA determination allows the state to reduce the substantial error-factors inherent with a delineated map (recognizing the diverse geology of the state), and allows more flexibility for the potential permittee. Nevada’s OSGWA plan must be submitted to the EPA for approval, as part of a primacy revision package, due to EPA by December 29, 2000.

Additionally, Nevada’s proposed regulations have a provision whereby a permit applicant determined to be in an OSGWA can formally request an exemption from OSGWA status by providing sound and rigorous scientific evidence, to the director’s satisfaction, demonstrating that the proposed injection activities would not degrade Waters of the State. Emphasis would be placed on the characteristics of the injectate, including toxicity, chemical variability, expected flow volumes and frequencies and the physical and chemical attenuation properties of the vadose zone media.

Summary of Other Proposed Amendments

The proposed regulation amendments include changes in the fee structure and in the amounts of certain fees, some up and some down. Overall, the state does not expect a substantial increase in fee revenue from the proposed changes. **A new fee permit category has been added for Class V injection wells associated with aquifer storage and recovery, or aquifer recharge.** Also, a general permit has been added for remediation activities, and the existing general permit category is now a fee permit, whereas previously it was free. However, if a remediation site permittee qualifies for a general permit, the fees would be substantially reduced as opposed to obtaining an individual permit. Fee categories have been reorganized. Whereas previously there was a separate category for renewal fees, the new proposed fee structure has the same fee for new permit applications, permit renewals, and major modifications for existing permits.

The proposed regulations add new categories of injection wells that could be eligible for a general permit

(in addition to the remediation general permit). Because at this time there have been no general permits written for injection wells by the UIC program, the fee for general permits does not add any new cost burdens to current permittees, and would in fact result in lower future permitting costs for applicants that qualify for a general permit.

Other miscellaneous language has been proposed. Clarifications have been made regarding cancellation and suspension of permits. These changes will allow permittees more flexibility and possible savings in permit fees, for cases where a permit is no longer needed but may be needed again at the same site in the near or intermediate future. The proposed regulations also provide a list of acceptable minor modifications to an existing permit, thereby potentially saving time and eliminating possible permit renewal fees, where previously a major permit modification would have been required due to lack of guidance. The state is also proposing to allow temporary permits for pilot projects and other limited duration tests for various types of activities. This provision will permit aquifer tests where injection is required, but where little hydrogeologic information is currently available to provide a basis for permanent permit requirements and conditions, or where the permittee only wishes to inject for a limited time for a specific purpose. Temporary permits of this type would not be issued where imminent environmental concerns may be exacerbated by the proposed injection.

ATTACHMENT A

Injection Well Types

Nevada has divided injection wells into five classes pursuant to federal regulations. As of 1999, there are approximately 85 active UIC permits, including both Class II and Class V wells, in the State. There have been no Class III well applications submitted to date. Class I and Class IV wells are prohibited in the State UIC regulations, and currently no Class I or IV wells are known to exist in Nevada. The only exception to prohibition of Class IV wells, would be remediation sites administered under CERCLA or RCRA, according to Nevada's proposed amendments to the current UIC regulations. One of the major differences between the federal and State of Nevada UIC regulations is that a permit is required in Nevada for all injection activities, regardless of well class.

Injection Well Classes as defined in the Nevada UIC regulations:

Class I

A Class I well is an injection well for the disposal of industrial, municipal and radiological or high level radioactive waste whereby fluids are injected below the lowest formation containing, within one-quarter mile of the well bore, water with a concentration of total dissolved solids of 10,000 milligrams or less per liter and includes:

- A well used for the injection of hazardous waste by a person who generates hazardous waste or an owner or operator of a facility for the management of hazardous waste; and,

- A well for the disposal of industrial waste and municipal sewage effluent.

Class II

A Class II well is an injection well for the production and storage of oil and gas and includes a well which injects fluids:

- Which are brought to the surface in connection with the conventional production of oil or natural gas;
- For enhanced recovery of oil or natural gas; and
- For storage of hydrocarbons which are liquid at standard temperature pressure.

Class III

A Class III well involves a special process which injects fluids for the extraction of minerals or energy, except geothermal energy, and includes:

- Mining of sulfur by the Frasch process;
- In situ production of uranium or other metals from bodies of ore which have not been conventionally mined;
- Solution mining of salts or potash; and
- In situ recovery of fossil fuel, which includes coal, tar sands, oil shale and any other fossil fuel which can be mined by this process.

Class IV

A Class IV well is an injection well which injects hazardous wastes into or above a formation containing, within one-quarter mile of the well bore, an underground source of drinking water or an aquifer which has been exempted pursuant to NAC 445A.850 to 445A.855, inclusive, and includes a well used by:

- Persons who generate hazardous waste or radiological or high-level radioactive waste; and
- An owner or operator of a facility for the management of hazardous waste or a site for the disposal of radioactive waste.

Class V

A Class V well is any injection well not included in Classes I, II, III and IV, and includes (proposed UIC amendments incorporated):

- Wells used to inject the water for heating or cooling by a heat pump;
- Cesspools or other devices receiving wastes which have an open bottom and sometimes have perforated sides;
- Wells used to inject water previously used for cooling;
- Wells used to drain surface fluid, primarily the runoff from storms, into a subsurface formation;
- Wells used for the injection of fluids accumulated from dewatering operations;
- Drywells and wells used for the injection of wastes into a subsurface formation excluding hazardous waste;
- Wells used to replenish the water in an aquifer;
- Wells used to inject water into an aquifer of fresh water to prevent the intrusion of water of a lower quality into the fresh water;
- Wells used to inject a mixture of water and sand, mill tailings or other solids into subsurface mines;
- Wells used to inject sanitary waste, excluding single family residences and facilities having a volume capacity of less than 5000 gallons per day;
- Wells used to inject fluids into a zone, other than an oil or gas producing zone, to reduce or eliminate subsidence associated with the overdraft of fresh water;
- Wells used for the storage of hydrocarbons in a gaseous state at standard temperature and pressure;
- Geothermal wells used in heating, the production of energy and aquaculture;
- Wells used for solution mining of ores or minerals in conventional mines, such as stopes leaching;
- Wells used to inject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts;
- Injection wells used in experimental technologies;
- Injection wells used to reinject pumped and treated contaminated groundwater back into the same

formation, which are approved under a federal or state cleanup program, excluding hazardous waste;

- Injection wells used to inject specialty fluids (such as dilute hydrogen peroxide solution or nutrients), for purposes of chemical or biochemical treatment of contaminated groundwater or soil; and

- Motor vehicle waste disposal wells that receive or have received fluids from vehicular repair or maintenance activities, such as an auto body repair shop, automotive repair shop, new and used car dealership, specialty repair shop (e.g., transmission and muffler repair shop), or any facility that does any vehicular repair work.